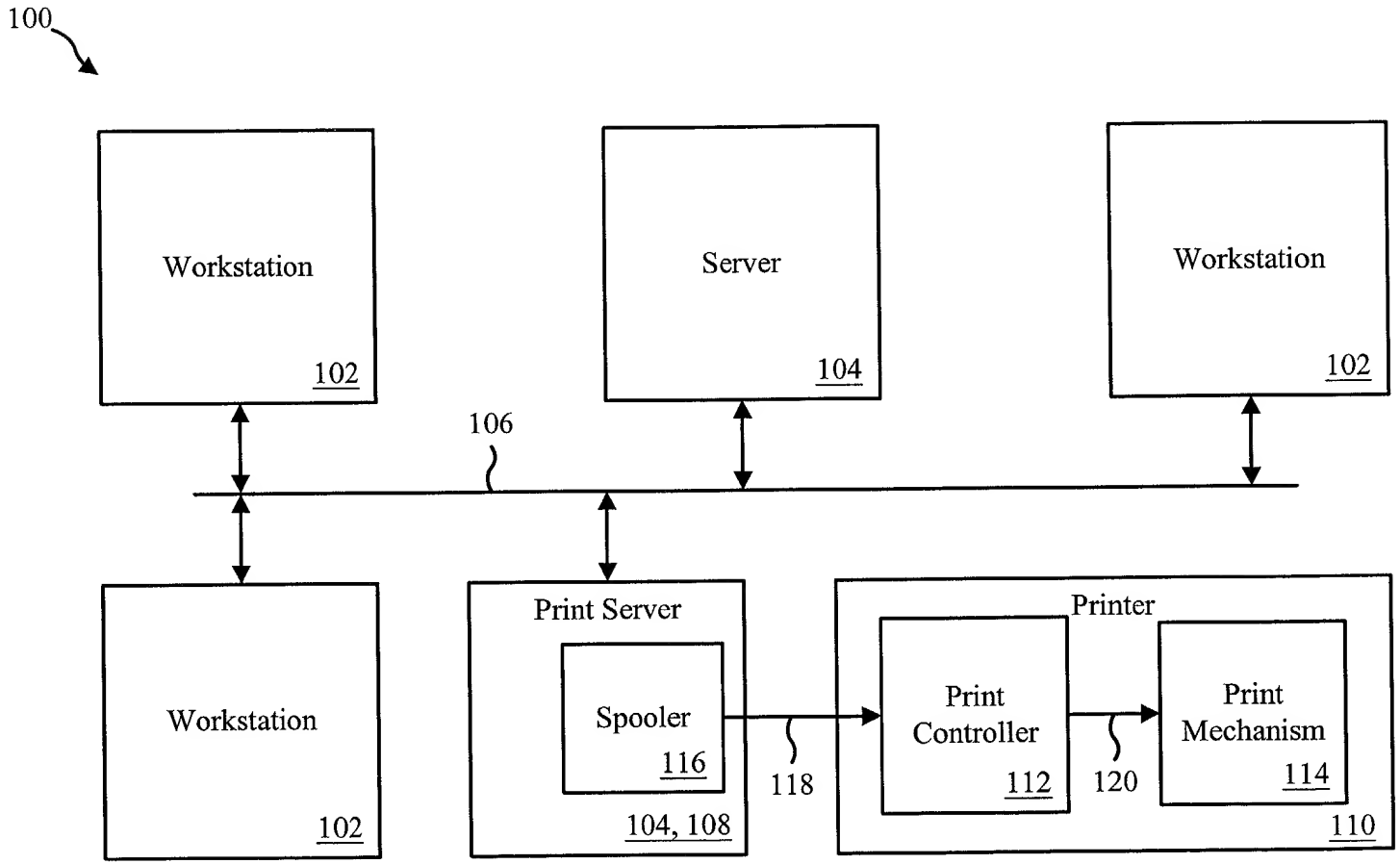
100
Workstation
102
Server
104
Workstation
102
106
Workstation
102
Print Server
Spooler
116
104, 108
118
Printer
Print
Controller
112
120
Print
Mechanism
114
110

Fig. 1

PATENT DOCUMENT

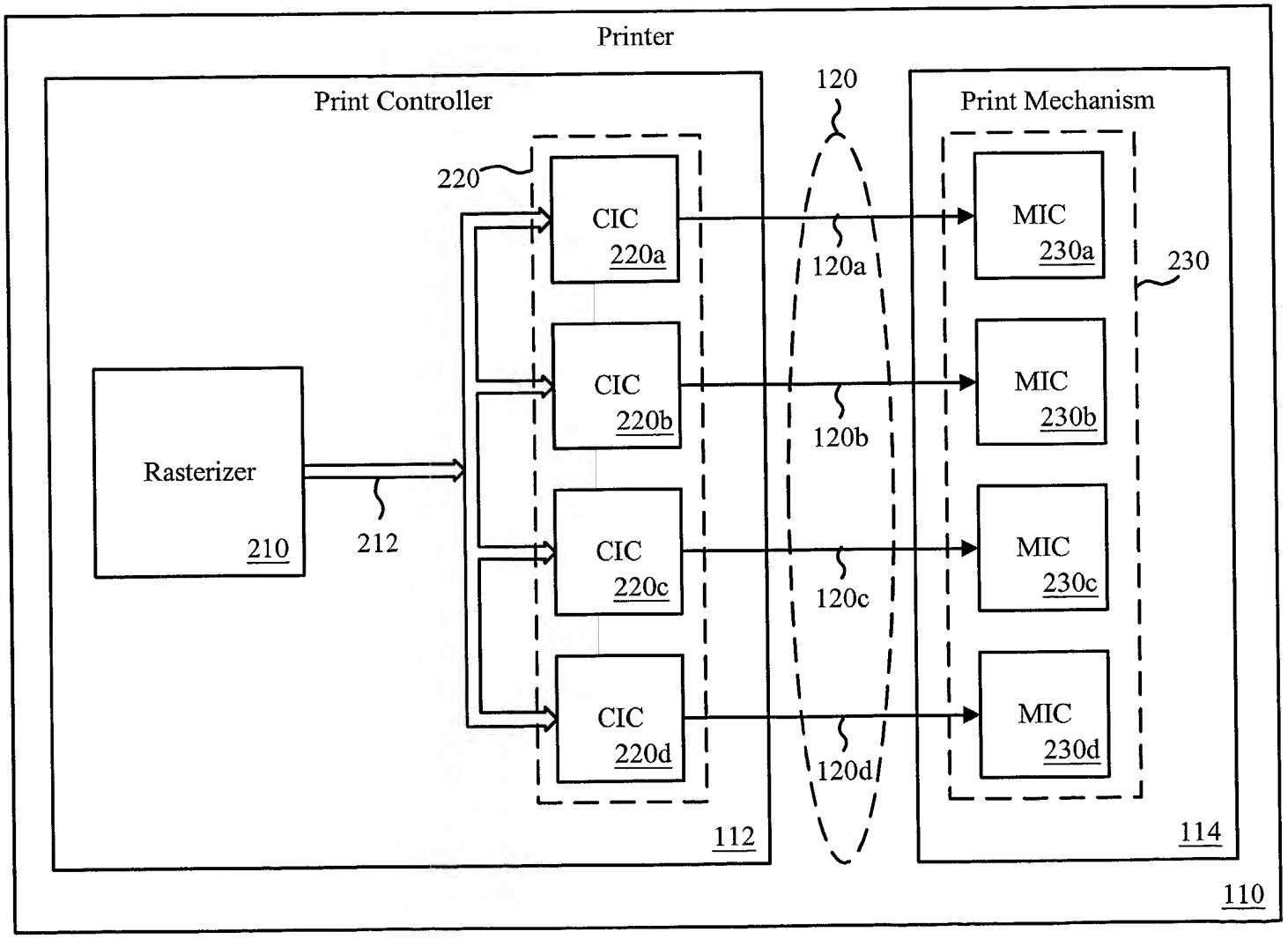

Fig. 2

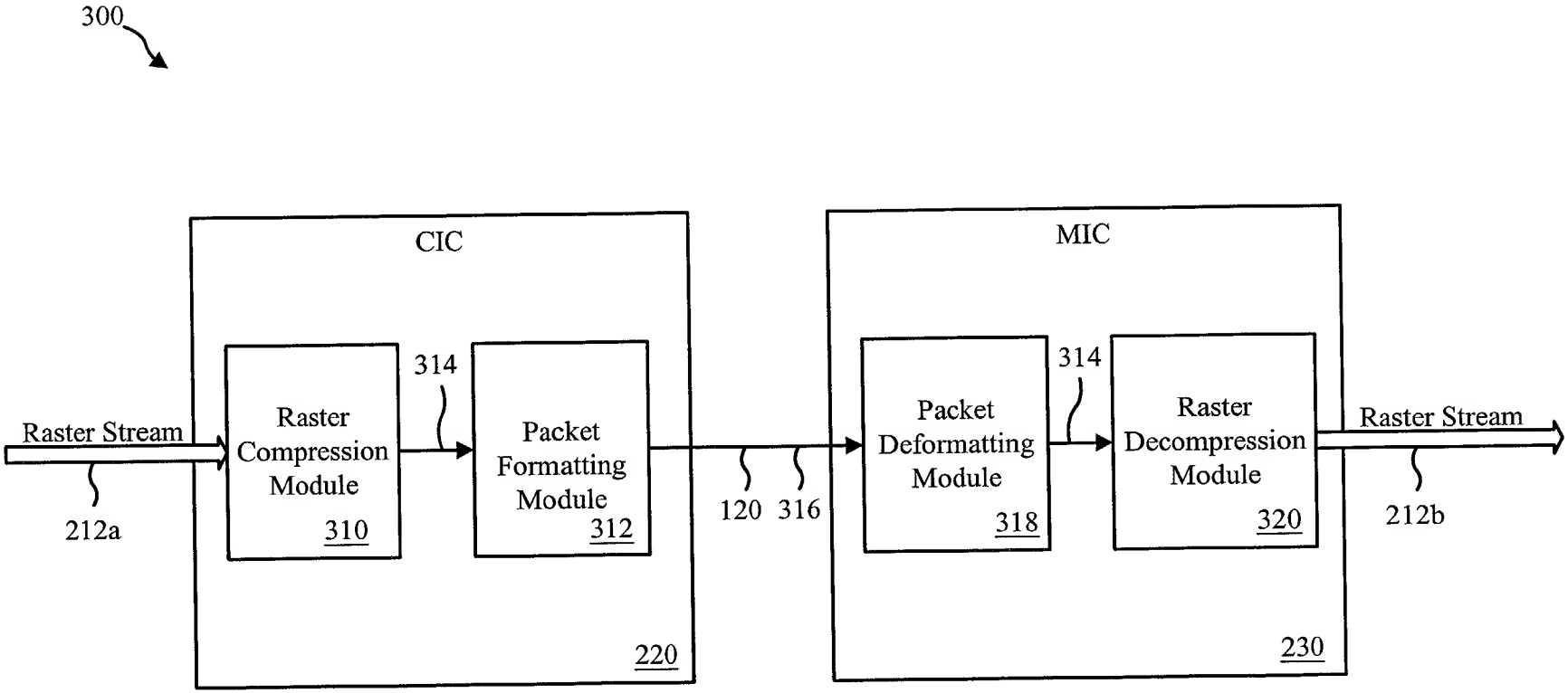
300
CIC
MIC
Raster Stream
212a
Raster Compression Module
310
314
Packet Formatting Module
312
220
120
316
Packet Deformatting Module
318
314
Raster Decompression Module
320
230
Raster Stream
212b

Fig. 3

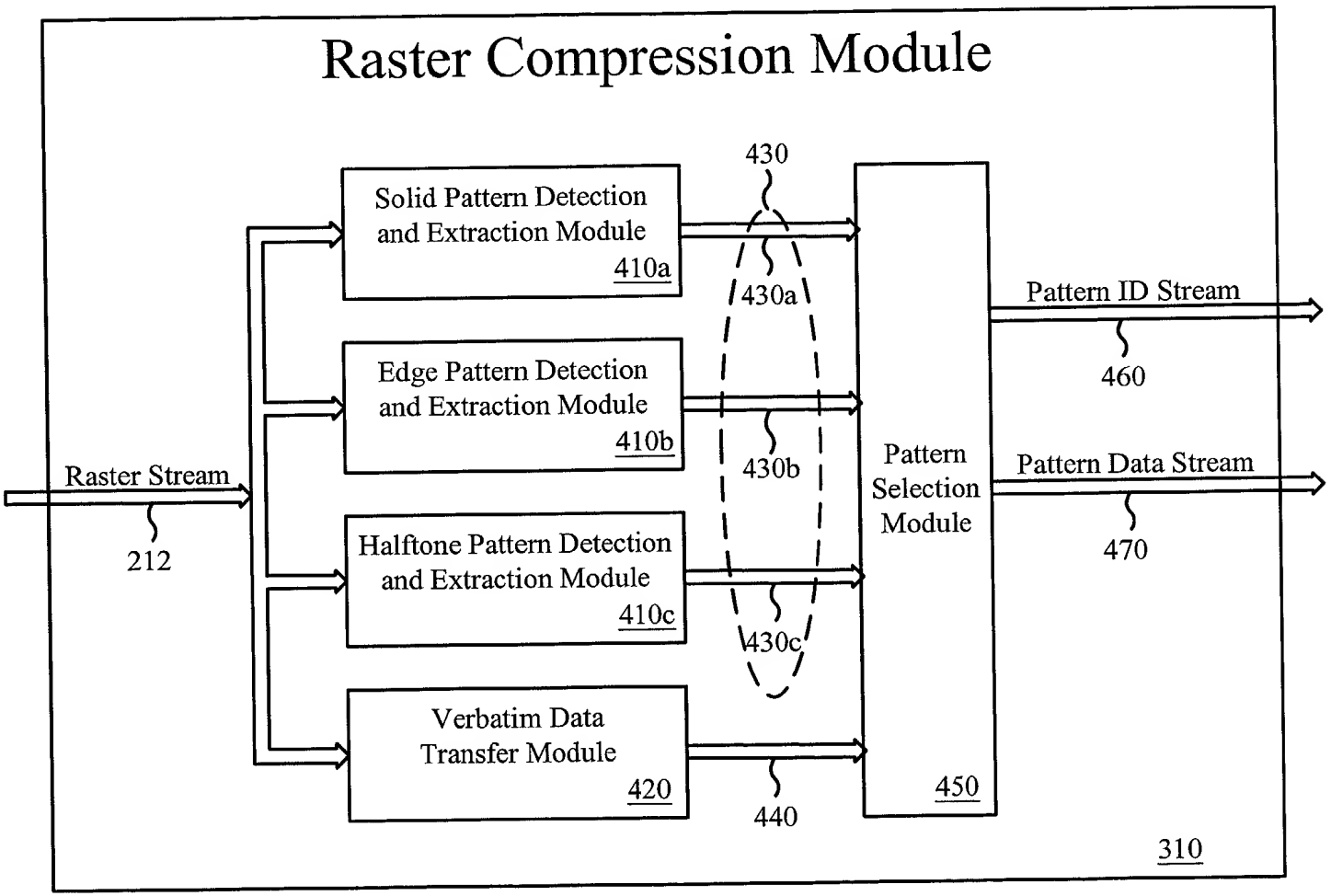
Raster Compression Module
Solid Pattern Detection and Extraction Module
410a
Edge Pattern Detection and Extraction Module
410b
Halftone Pattern Detection and Extraction Module
410c
Verbatim Data Transfer Module
420
Raster Stream
212
430
430a
430b
430c
440
Pattern Selection Module
450
Pattern ID Stream
460
Pattern Data Stream
470
310

Fig. 4

Example Patterns

RASTER DATA	PATTERN ID	PATTERN LABEL	PATTERN DATA
1111111111111111	Solid	ON	1
1110000000000000	Edge	OFF AT BIT3	00011
1110011111100111	Half-tone	75% GRAY	110000
1011010000110101	Verbatim	-	1011010000110101

Fig. 5

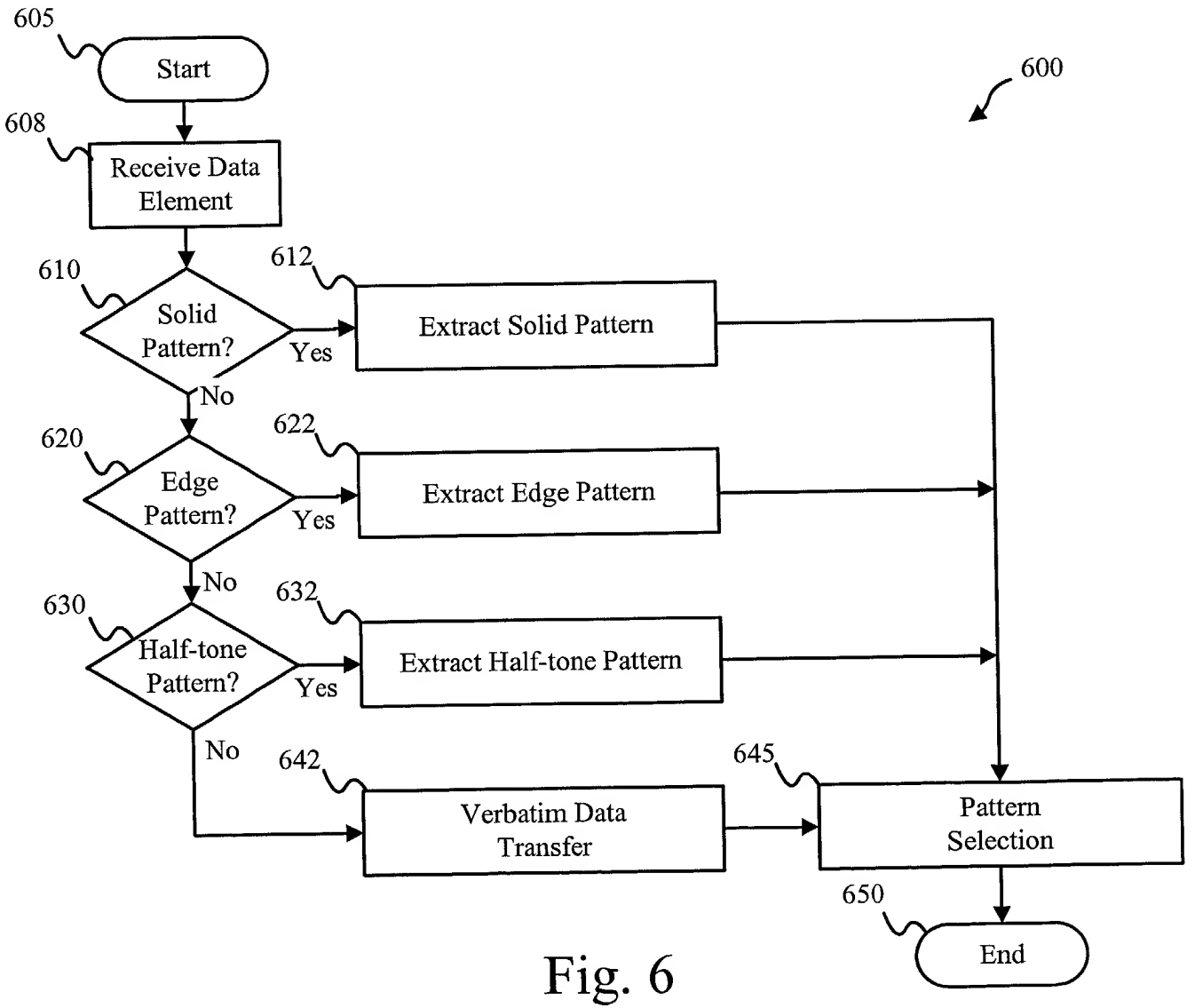
605
Start
600
608
Receive Data Element
610
Solid Pattern?
Yes
612
Extract Solid Pattern
No
620
Edge Pattern?
Yes
622
Extract Edge Pattern
No
630
Half-tone Pattern?
Yes
632
Extract Half-tone Pattern
No
642
Verbatim Data Transfer
645
Pattern Selection
650
End

Fig. 6

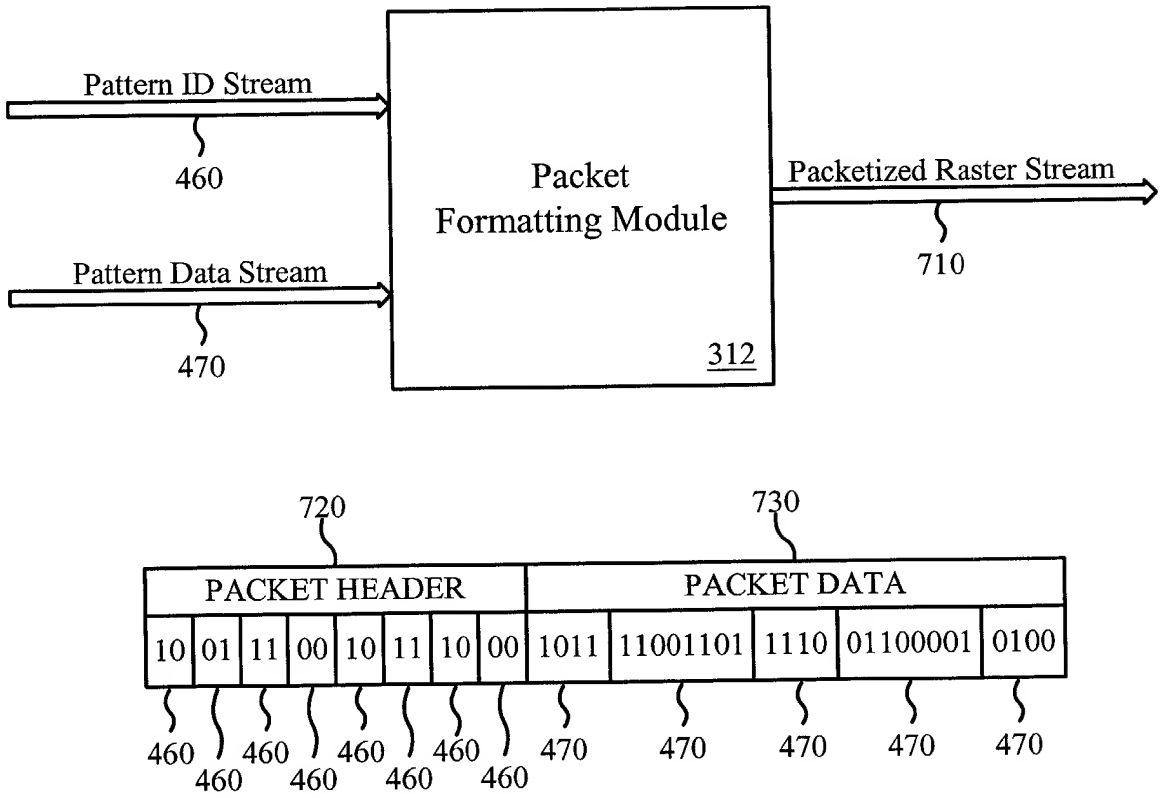
Pattern ID Stream
460
Pattern Data Stream
470
Packet
Formatting Module
312
Packetized Raster Stream
710
720
730
PACKET HEADER
PACKET DATA
10 01 11 00 10 11 10 00
1011 11001101 1110 01100001 0100
460 460 460 460 460 460 460 460
470 470 470 470 470

Fig. 7

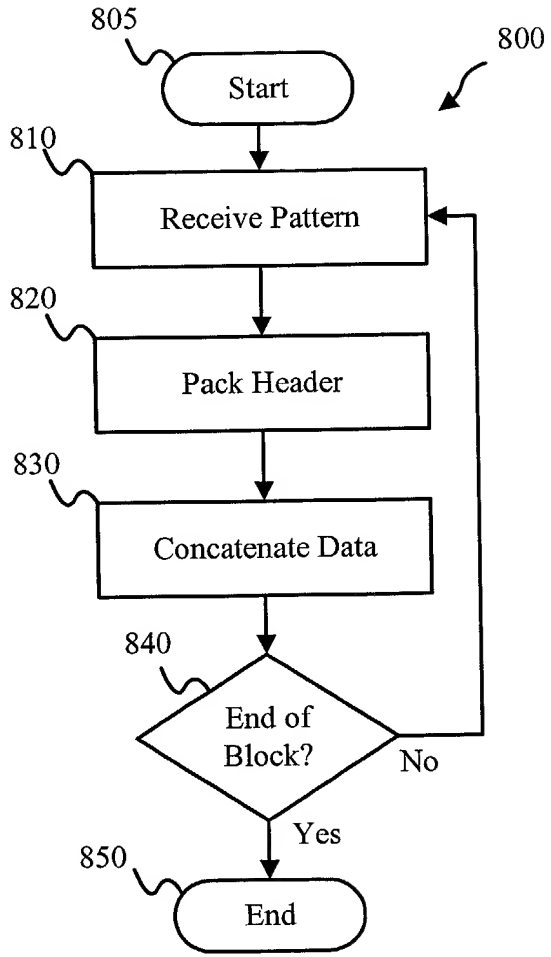
805
800
Start
810
Receive Pattern
820
Pack Header
830
Concatenate Data
840
End of Block?
No
Yes
850
End

Fig. 8

PACKET HEADER 910a	PACKET DATA 920a	DECODED RASTER DATA 930a
00 - Solid OFF Pattern	NONE	All Zeros
01 - Solid ON Pattern	NONE	All Ones
10 - Edge Pattern	0, Edge Position 1, Edge Position	Zeros To Edge Position, Ones Thereafter Ones To Edge Position, Zeros Thereafter
11 - No Pattern	Verbatim Raster Data	Verbatim Raster Data

Fig. 9a

PACKET HEADER 910b	PACKET DATA 920b	DECODED RASTER DATA 930b
0 - Solid Pattern	0 1	All Zeros All Ones
1 - Other Pattern	0	Repeat Last Data Element
	100, Edge Position 101, Edge Position	Zeros To Edge Position, Ones Thereafter Ones To Edge Position, Zeros Thereafter
	11, Verbatim Raster Data	Verbatim Raster Data

Fig. 9b

PACKET HEADER 910c	PACKET DATA 920c	DECODED RASTER DATA 930c
0 - Solid Pattern	0 1	All Zeros All Ones
1 - Other Pattern	0	Repeat Last Data Element
	1, Verbatim Raster Data	Verbatim Raster Data

Fig. 9c

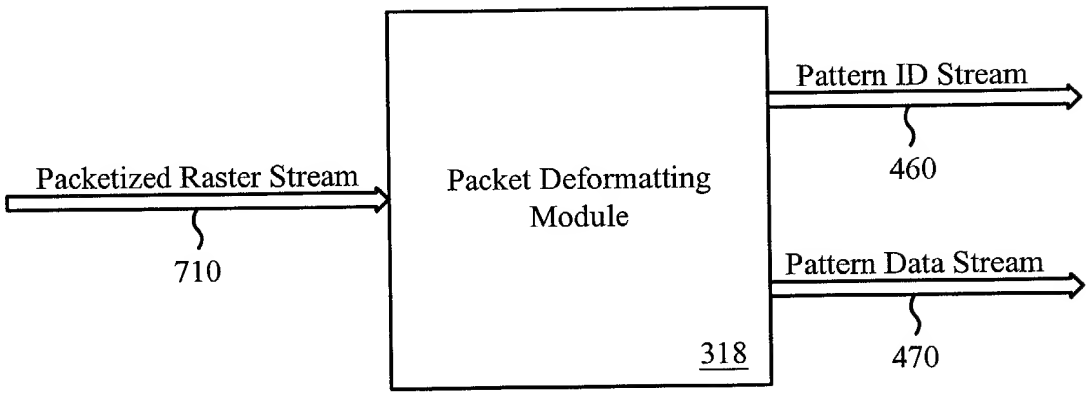
Packetized Raster Stream
710
Packet Deformatting Module
318
Pattern ID Stream
460
Pattern Data Stream
470

Fig. 10

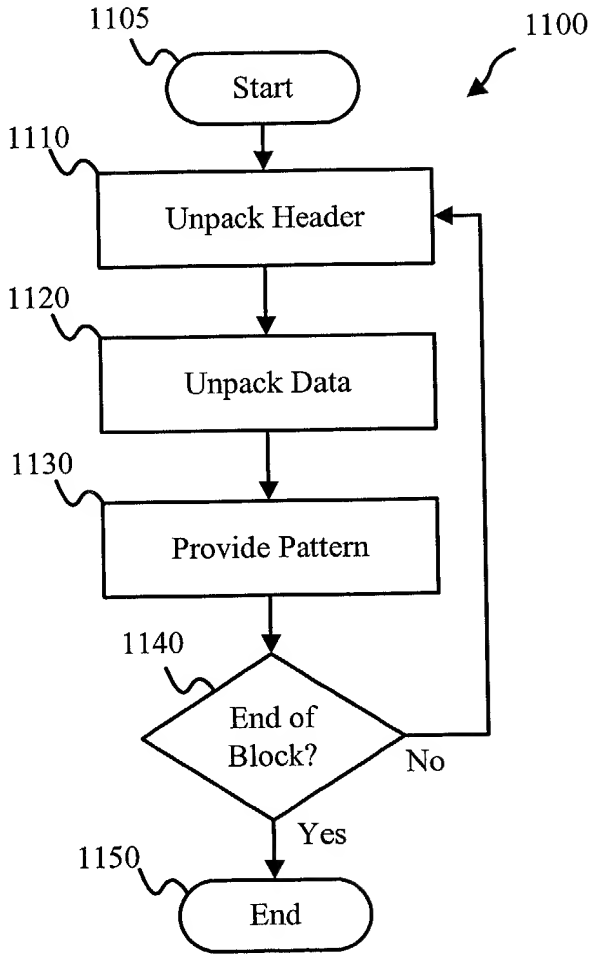
1105
1100
Start
1110
Unpack Header
1120
Unpack Data
1130
Provide Pattern
1140
End of Block?
No
Yes
1150
End

Fig. 11

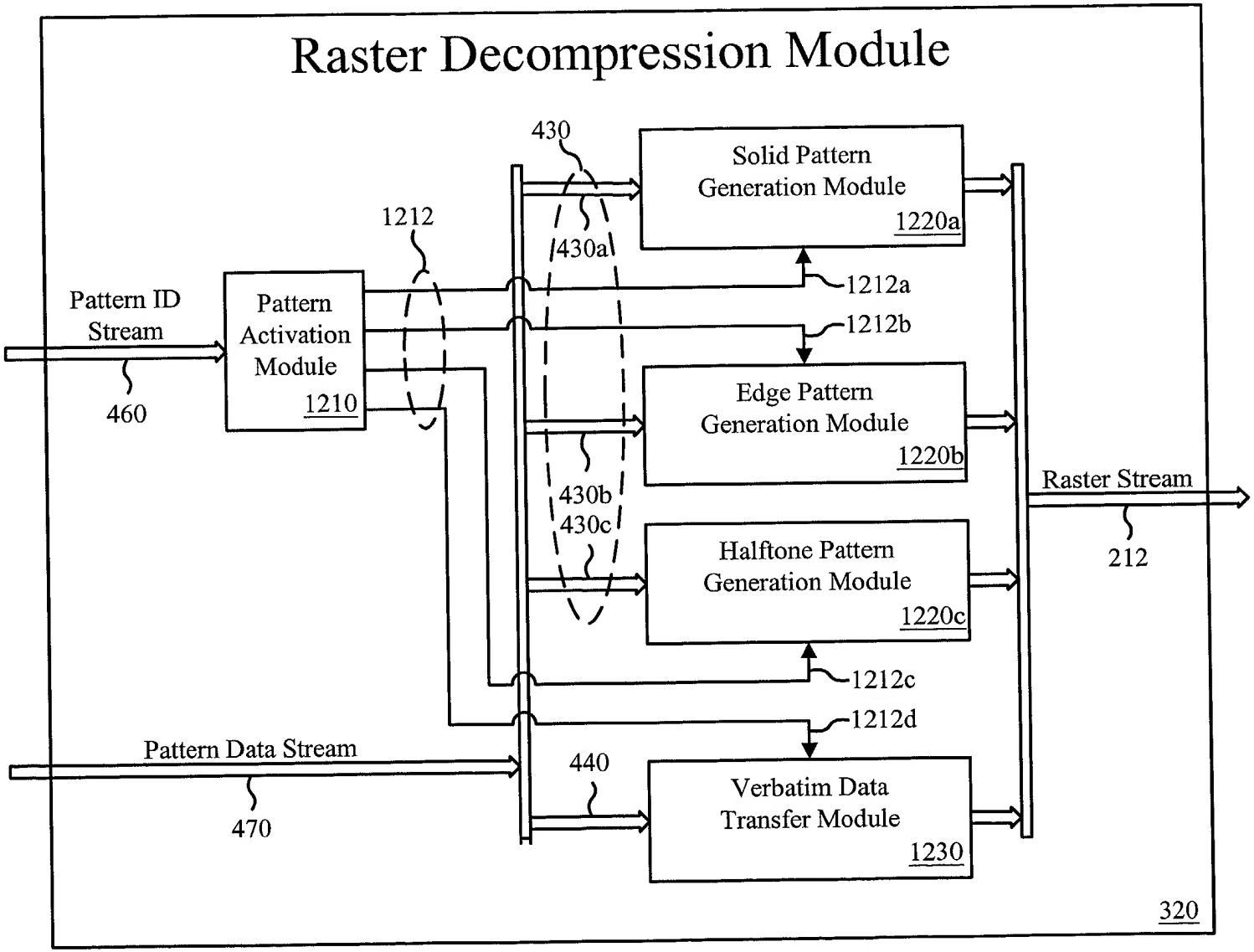
Raster Decompression Module
430
Solid Pattern Generation Module
1220a
1212
430a
1212a
Pattern ID Stream
460
Pattern Activation Module
1210
1212b
Edge Pattern Generation Module
1220b
Raster Stream
212
430b
430c
Halftone Pattern Generation Module
1220c
1212c
1212d
Pattern Data Stream
470
440
Verbatim Data Transfer Module
1230
320

Fig. 12

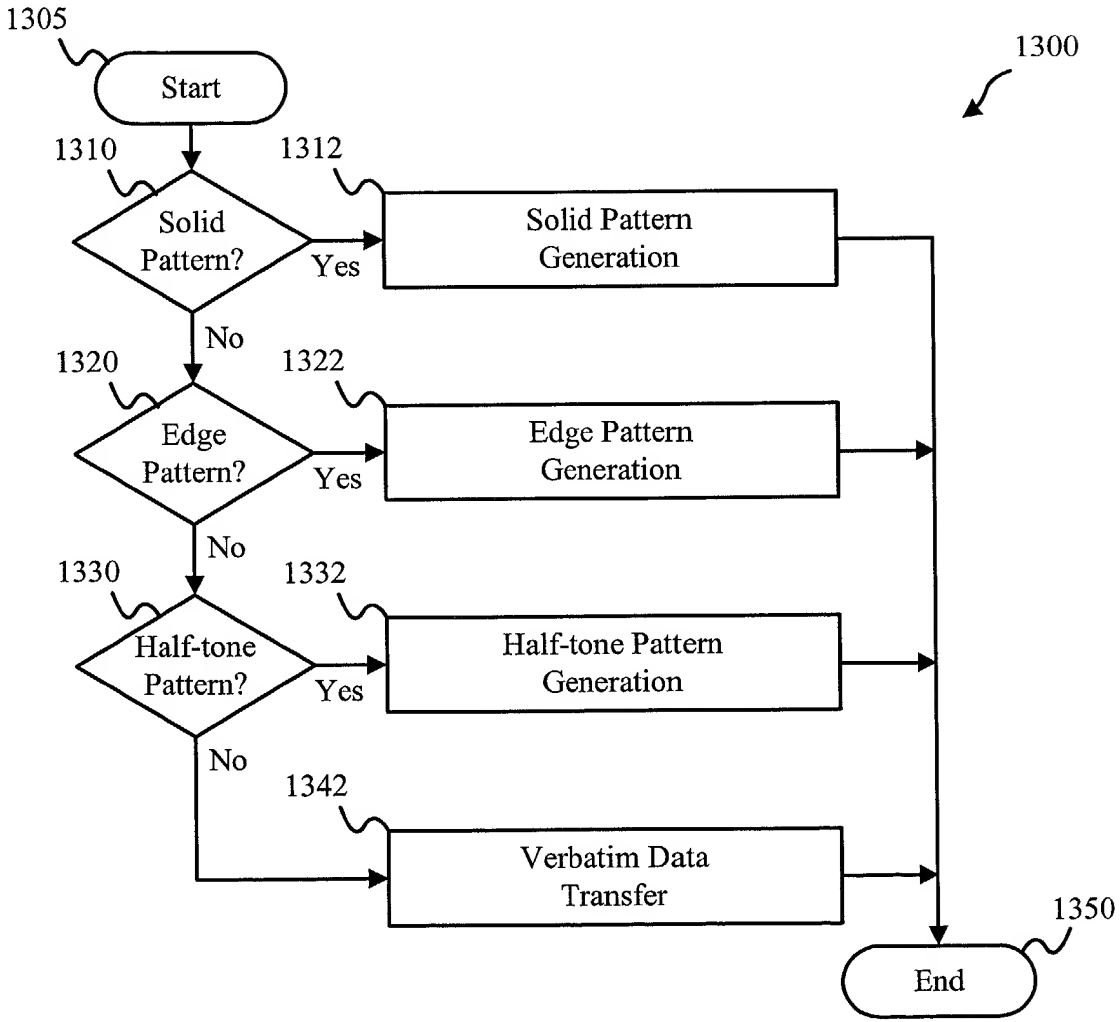
1305
Start
1300
1310
Solid Pattern?
1312
Solid Pattern Generation
Yes
No
1320
Edge Pattern?
1322
Edge Pattern Generation
Yes
No
1330
Half-tone Pattern?
1332
Half-tone Pattern Generation
Yes
No
1342
Verbatim Data Transfer
1350
End

Fig. 13

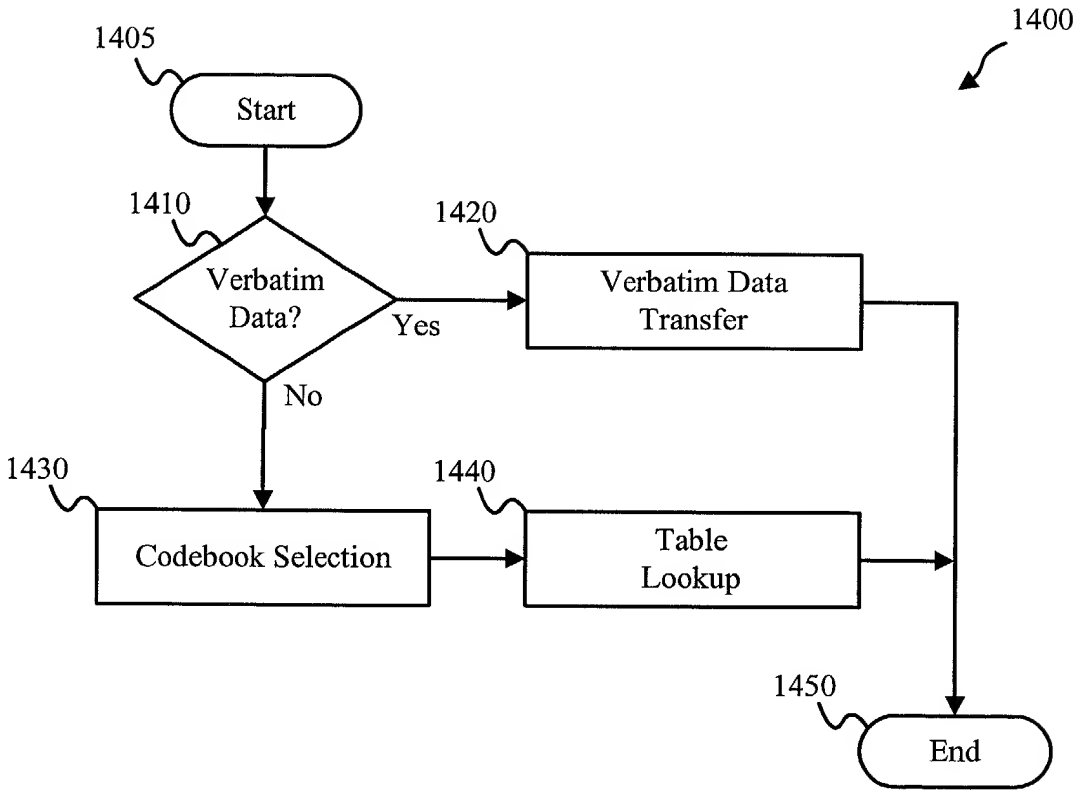
1400
1405
Start
1410
Verbatim Data?
Yes
No
1420
Verbatim Data Transfer
1430
Codebook Selection
1440
Table Lookup
1450
End

Fig. 14